

**DESCRIPTION OF MATERIALS**  
Single Family Housing – Manufactured Homes  
**USE AS A GUIDE ONLY (not for construction)**

Property Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Dealer-Contractor \_\_\_\_\_  
(name) (address)

*The examples used below are for crawl space only.*

**1. EXCAVATION:**

**Bearing Soil, Type:** Clay/Hardpan - 2000 psf (if other than 2000 psi: design footing/foundation accordingly).

**Footing Depth:** Below frost line of area and on undisturbed soil. Frost line/footing depth is \_\_\_\_\_.

**Additional Information:** \_\_\_\_\_

**2. FOUNDATIONS:**

**Footings:** 16"x 8" min., 3000 psi conc. min. (5 1/2 bag, 6 gal mix). 2 - #4 Rebar horizontal, min.

**Foundation Wall:** 8"x 24" minimum, 3000 psi conc. #4 Rebar 4' o.c. vertically; top, bottom, and middle horizontally, min.

**Foundation Vents** (crawl space): 8 - 8"x 16" vents, 3' from corners.

**Piers:** 3000 psi conc., 24"x 24"x 10" w/ rebar.

**Sill Anchors:** 1/2"x 10" "J" bolts, 6' o.c. 12" from corners. Bolts are to be imbedded 7" into concrete.

**Waterproofing:** Bituminous coat with 6 mil poly adhered, mop joints.

**Positive Drain:** Crawl space drain, and footing drains, shall have a positive drain to daylight. Siding to be minimum 6" off ground. Ground adjacent to house shall slope 6" in the first 10', min.

**Termite Protection:** Certified applicator to Treat soil under and around structure and send termite certification to Rural Development.

**Special Foundations:** Porch foundation to be below frost line or stoop arms off foundation.

**Additional Information:** Ventilation openings are not required when the ground surfaces are covered with an approved vapor retarder material, the space is supplied with conditioned air and the perimeter walls are insulated per R408.2.

\* If soil bearing pressure is questionable at footing areas , the allowable bearing pressure may be determined by a soils investigation.

The manufactured unit must have a permanent site-built foundation in compliance with the 2000 International Residential Code and be permanently attached to the foundation.

8"x8"x16" concrete blocks may be used for foundation materials.

**3. EXTERIOR WALLS: if garage or other structure added**

**Siding:** Match manufactured home by color, design and specifications.

**Framing/concrete:** As per 2000 International Residential Code and Architect/Engineers design.

**Masonry Veneer:** This material must be applied over a vapor barrier with ties at 24" o.c. vertically and 16" o.c. horizontally. Weep holes max. 33" o.c.

**4. GUTTERS AND DOWNSPOUTS:**

**Gutters:** Continuous (seamless) baked enamel aluminum, 26 gauge, 5" ogee shape min.

**Downspouts:** Continuous (seamless) baked enamel aluminum, 26 gauge, 2"x 3" rectangle min., each roof corner.

**Splash Blocks:** A 12"x 30" conc. splash block for each downspout.

**Additional Information:** Ensure positive drain from splash blocks.

**5. STAIRS-DECKS:**

**Exterior Stairs:** 2 x12 treated wood; 7" riser max.; 11" tread min; 3'x 3' min. landing.

Decks shall have railing if 30-inches or more above grade

**Balusters:** 4" spacing **Stringers:** 3 - 2 x 12, CCA/fir. **Guardrail:** Both sides of stairs (min 34" tall)

**Handrail:** Handgrip portions of handrails shall have a circular cross section of 1-1/4" to 2-5/8", mounted 34" to 38" above nosing of tread.

**Joist Hangers:** Spans in floor joists exceeding 6' need to be attached with joist hangers.

**Additional Information:** Open risers are permitted, provided the opening between the treads does not permit the passage of a 4-inch diameter sphere.

## 6. PLUMBING:

**Sump Pump:** If needed, install IAW manufacturer's instructions and cover with lid; high water indicating alarm.

**Sump Pump Drain:** Extend to street or to area where erosion and drainage can be controlled.

**Water/Septic System:** Permitted/approved by Dept. of Health or approved authority.

**Water Supply Lines (above grade):** CPVC, Type M copper, all with approved fittings.

## 7. ELECTRIC WIRING:

**Wiring:** 12/2 Ga. wire with ground, copper, min; (14/2 w/ground from switch to light). If other construction is done.

## 8. INSULATION:

### MINIMUM REQUIREMENTS

**Water line:** All water lines in crawl space to be insulated.

**Garage:** Wall between attached garage and dwelling R-19, taped drywall on both sides. and ceiling of garage drywall and taped. (1/2" drywall) Exterior walls of attached garage, if insulated, need to be drywalled

**Thermal requirements for manufactured homes must meet the Uo Value Zones for the area where the home will be located. In Missouri the Uo value is Zone 3 except for the following counties in which a Zone 2 is accepted: Barry, Butler Cape Girardeau, Dunklin, Howell, Jasper, McDonald, Mississippi, New Madrid, Newton, Oregon, Ozark, Pemiscot, Ripley, Scott, Stoddard, Stone and Taney.**

## MISCELLANEOUS:

- **Hardware:** Approved numbers or addresses shall be provided for all new buildings in such a position as to be plainly visible from the street or road fronting the property (R325.1). All doors shall be keyed alike.
- **Porches:** All porches to be on stoop arms or have a foundation below frost line. Porch slabs shall be poured against flashing next to dwelling (if against framing). Siding to be 4" above porch or deck. Minimum porch/landing size to be 3'x 3'. Deck/porch exceeding 30" off grade shall have railing with balusters. Baluster spacing shall not allow a 4" diameter object between balusters. The minimum 3' x 3' primary entrance landing may not be more than 8" below the top of the threshold. Steps at a secondary entrance do not require a landing.
- **Exterior Concrete Slabs:** Slabs, sidewalks, driveways, garage floors, or any concrete slab that is exposed to the elements shall be constructed with 3500 psi concrete and reinforced with 6 x 6 10/10 welded wire mesh or #4 rebar on a 36" grid, maximum. Construction joints not to exceed 20', minimum 4" thick, light broom finish on exterior concrete.
- **Garages:** The garage, if provided shall be separated from the residence and its attic area by taped 1/2" gypsum board applied to the garage side. Garage O.H. door jack studs are to be treated lumber if in contact with concrete. Provide a window in garage wall or door. Slope garage floor 2" from rear to overhead door. Provide a steel insulated or 1 3/8" solid wood door between the house and garage. Garage floor to be 12" higher than street or have special design allowing for run-off. Garage floor shall be 4" or more lower than finished floor areas. Garage floor to be 1" higher directly behind door to prevent driving rains from forcing water into garage.

If there is not a garage, then a parking pad will be constructed. This will consist of a concrete pad 14' x 20' as per exterior concrete slabs above.

- **Driveway:** 12' width with flared edges at street. 4" sand or clean gravel base 4", 3500 psi conc. with 6x6 #10/10 wwm and connected to a hard surface street. If the roadway is gravel a chat drive or other approved materials per local use may be used.
- **Drainage culvert** at road entrance is to be designed for extreme conditions and to minimize erosion. Written acceptance per the Mo. Hwy. Dept or local approving officials is required.
- **Side walks:** 4' width, 3500 psi conc. with #6x6 #10/10 wwm. Stairs to have 7" riser max with 11" min. tread. Provide walk from driveway to front door.
- **Landscaping, Planting and Finish Grading:** Dwelling property to be finish graded, raked smooth, large rocks removed, seeded and mulched. Grade to be 8" below top of foundation and 6" below siding. Slope grade 6" in first 10' away from dwelling, min. Topsoil from site only.. Plantings shall include two 8' trees and three 2-gallon medium growing shrubs."
- **Ramps shall have a maximum slope of one unit horizontal (12.5-percent slope). (R313.1) in eight units**
- **Handrails shall be provided on at least one side of all ramps exceeding a slope of one unit vertical in 12 units horizontal. (R313.2)**
- **A minimum 3-foot x 3-foot landing shall be provided at the top and bottom of ramps, where doors open onto ramps and where ramps change directions (R313.3).**
- **All Seismic design work is to be certified and plainly shown on the plans for applicable areas.**
- **Decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable (R502.2.1). Where this cannot be verified, decks shall be self supporting.**
- **For Engineered wood products, cuts, notches and holes bored in trusses, laminated veneer lumber, glue laminated members or I-joists are NOT permitted unless the effects of such penetrations are specifically considered in the design of the member (R502.8.2).**
- **On each manufactured home that is financed, we must have complete foundation drawings and design calculations and specifications prepared, sealed and certified by a licensed professional (Architect or Engineer) or others i.e. Plan reviewers certified by a national model code, local building officials authorized to review and approve building plans and specifications or National Code Organizations. Foundation design sections and details of all critical construction points systems, anchorage methods, and structural items shall be shown on the drawings. Include all pertinent information from the manufacturer that pertains to delivery, preparation for set-up and final assembly. The certification must be on USDA Form RD 1924-25.**
- **The Manufactured Home must be permanently attached to the foundation by anchoring devices adequate to resist ground movement, seismic shaking, potential shearing, overturning and uplift loads caused by wind etc.**
- **The Manufactured Home must have the towing hitch or running gear, which includes tongues, axles, brakes, wheels, lights and other parts of the chassis that operate only during transport REMOVED.**
- **Accessory structures may be a part of the package, however they shall enhance the appearance of the home, shall not obstruct required openings for natural light and ventilation and utility connections and shall NOT include spaces for pantries, bath, toilets, laundries, closets or utility rooms.**
- **A schematic floor plan of the Manufactured Home should be submitted by the applicant when applying for Agency financing.**
- **Form Rural Development/1924-2, "Description of Materials," or other acceptable and comparable descriptions of materials used for site development, foundation installation and the permanent perimeter enclosure shall be submitted with the drawings by the applicant.**
- **One contract for construction of the home is required. Rural Development requires that the applicant have one contract with a competent dealer/contractor or general contractor who is responsible for a completed and final home and yard.**
- **A Form 1924-19 "Builders Warranty", warranty protection for one-year is required to be executed upon final acceptance of the work by the owner and Rural Development.**

- **A plot plan is to be provided with the certified drawings and specifications. As a minimum it shall contain the following:**

- 1) Lot and Block Number
- 2) Dimensions of plot and point North
- 3) Dimensions of Front, Rear and Side Yards (exact location of unit to be established)
- 4) Locations and dimensions of detached garage, carport or other accessory buildings
- 5) Locations and sizes of walks, driveways and approaches
- 6) Locations and sizes of steps, porches and retaining walls
- 7) Location and dimensions of easements and established setback requirements, if any
- 8) Approximate locations of drainage swales
- 9) Locations of individual water supply and/or sewage system (if proposed)

**Requirements if there is a basement:**

The proposed manufactured homes may be erected with or without a basement on a site-built permanent foundation. If the option is to include a basement the certified drawings shall include detailed drawings, dimensions, footing, re-bar etc for the basement slab and walls. Include any piers in the floor area and any plumbing that may be concealed under the floor slab. Show methods of waterproofing the exterior of the foundation walls and materials and instructions for a drain around the perimeter of the basement.

Floors over unheated basements shall have a U value not to exceed .05 (R-20 insulation). This shall include all the floor area and the band joist. A basement shall be considered unheated unless it is provided with a positive heat supply to maintain a minimum temperature of 50 degrees F. Positive heat supply is defined by ASHRAE as "heat supplied to a space by design or heat losses occurring from energy-consuming systems or components associated with that space."

Where the walls of an unheated basement are insulated in lieu of floor insulation, the total heat loss attributed to the floor from the heated area shall not exceed the heat loss calculated for floors with required insulation. Therefore, unheated basements shall have all walls framed with 2 x 6, insulated R-19 and covered per the insulation manufacturers instructions (vapor barrier is required over the insulation).

Insulation may be omitted from floors of heated basement areas if foundation walls are insulated. The U value of the wall shall be 0.10 (R-10). This requirement shall include all foundation wall area, including band joist, to a point 50 percent of the distance from a finish grade to the basement floor level. Therefore the band joist is to be insulated to R-10 and the wall framed from the band joist down to a distance of half way between the finish grade outside and the basement floor. The insulated wall is to be covered per the insulation manufacturers instructions (vapor barrier is required over the insulation).

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Date

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signature of Dealer-Contractor

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Date

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signature of purchaser